Capsule endoscopy with retention of the capsule in a duodenal diverticulum

The most important complication of capsule endoscopy is retention of the capsule. Among patients with obscure gastrointestinal bleeding, capsule retention was reported in 1.5%; in patients with suspected Crohn's disease or suspected stenosis of the small bowel the risk of capsule retention seems to be considerably higher (5% and 21% respectively) [1,2]. To our best knowledge this is the first case of capsule retention in a duodenal diverticulum.

A 74-year-old woman was admitted to hospital for evaluation of microcytic anemia. Gastroscopy and colonoscopy were normal. Capsule endoscopy, using the M2A capsule (Given Imaging Ltd., Yoqneam, Israel [3]), demonstrated some diverticula shortly after passage of the pylorus. Further images were not evaluable. Three weeks afterwards the patient was asymptomatic but had still not excreted the capsule. A plain film of the abdomen demonstrated the capsule superimposed on the epigastrium and was otherwise normal (**Fig. 1**). A small-bowel radiograph with water-soluble contrast medium showed the capsule in a duodenal diverticulum and ruled out obstruction of the small bowel (**Fig. 2**). Gastroscopy was performed and the capsule successfully extracted from a large juxtapapillary diverticulum using the Roth retrieval net (**Fig. 3**).

Most patients with capsule retention are asymptomatic. However, a very few cases of symptomatic bowel obstruction requiring surgical or endoscopic removal of the impacted capsule have been reported [4,5]. This is the first case of capsule retention in a duodenal diverticulum and successful endoscopic removal of the impacted capsule. We suggest that, even in asymptomatic patients, capsules that are retained in intestinal diverticula and are not excreted within a period of about 3 weeks should be removed by gastroscopy or enteroscopy in order to prevent complications such as diverticulitis, perforation, or pancreatitis.

We conclude that capsule retention in a duodenal diverticulum is a rare complication of capsule endoscopy. In our patient endoscopic removal of the impacted capsule using a retrieval net was successful.

Fig. 1 Plain film anteroposterior abdominal radiograph: the capsule is superimposed on the epigastrium.

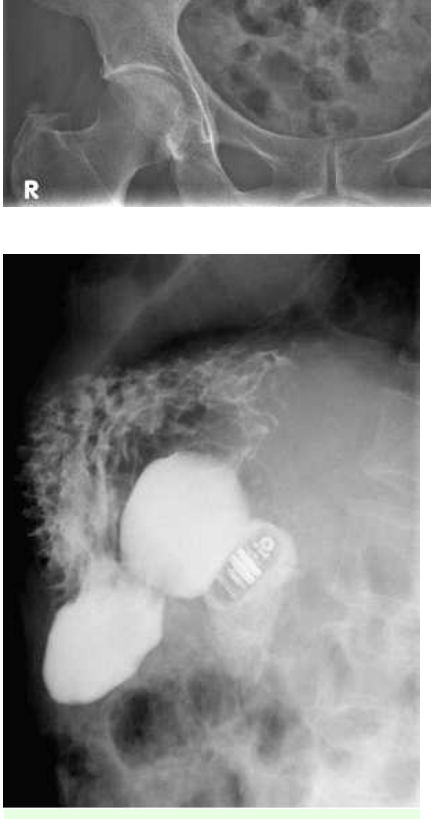

Fig. 2 Small-bowel radiograph with water-soluble contrast medium: the capsule is retained in a large duodenal diverticulum.

Fig. 3 The capsule was captured in a Roth retrieval net (white arrow). The yellow arrow marks the Teflon-coated tube of the net.

Endoscopy_UCTN_Code_CPL_1AI_2AB

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DOI 10.1055/s-2008-1077563
Endoscopy 2008; 40: E247 – E248

ISSN 0013-726X

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